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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/896,268	06/29/2001	Arne W. Ballantine	10964-057001 / PP 765	8057
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FISH & RICHARDSON PC P.O. BOX 1022 MINNEAPOLIS, MN 55440-1022			EXAMINER MARTIN, ANGELA J	
			ART UNIT	PAPER NUMBER

1745

DATE MAILED: 06/29/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/896,268

Applicant(s)

BALLANTINE ET AL.

Examiner

Angela J. Martin

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 17 April 2006.  
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,7-10 and 12-38 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1,7-10 and 12-38 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_.

### **DETAILED ACTION**

This Office Action is responsive to the Remarks filed on April 17, 2006. However, the rejection is made final for the following reasons of record.

#### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 7-10, and 12-23, 30-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Roberts et al., U.S. Pat. No. 6,329,089 B1, in view of Parise, U.S. Pat. No. 6,057,050.

Rejection of claims 1, 7-10, and 12-38 drawn to a method of operating a fuel cell system.

Roberts et al., teach a method of operating a fuel cell system comprising a fuel cell stack, the method comprising monitoring voltages of a set of fuel cells and restricting coolant flow through the stack when one or more of the voltages decreases from a predetermined voltage range (Fig. 2). It teaches unrestricting coolant flow through the stack. It teaches restricting and unrestricting coolant as a function of time; to cause voltages to be a predetermined level (col. 4, lines 58-63; col. 6, lines 52-55; col. 8, lines 34-43; col. 10, lines 35-40; Fig. 2).

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Parise teaches a method of operating a fuel cell system comprising a fuel cell stack (col. 2, lines 17-28), the method comprising heating a first end plate (col. 7, lines 9-17). It teaches first heating element different than first end plate and is performed electrically (abstract; col. 4, lines 44-57). It teaches heating element is adjacent to first end plate (Fig. 4). It teaches flowing a fluid through a channel defined by first end plate; wherein fluid is heated (col. 5, lines 8-15).

Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to insert the teachings of Parise into the teachings of Roberts et al., because Parise teaches that by heating the end plate via thermal management system can control the heat generation in the fuel cell and hence improve cell performance and extend the fuel cell life.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 24-29 are rejected under 35 U.S.C. 102(e) as being anticipated by Roberts et al., U.S. Pat. No. 6,329,089 B1.

Roberts et al., teach a method of operating a fuel cell system comprising a fuel cell stack, the method comprising monitoring voltages of a set of fuel cells and

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restricting coolant flow through the stack when one or more of the voltages decreases from a predetermined voltage range. It teaches unrestricting coolant flow through the stack (col. 4, lines 58-63; col. 6, lines 52-55; col. 8, lines 34-43; col. 10, lines 35-40; Fig. 2).

Thus, the claims are anticipated.

### ***Response to Arguments***

5. Applicant's arguments filed April 17, 2006 have been fully considered but they are not persuasive. Applicant argues that "insofar as Robert's method involves restricting coolant flow, the restriction is based on the measurement of a cell ***temperature parameter***, not on one or more ***monitored voltages***." However, Roberts's discloses that a "voltage reversal occurs...resulting in a negative cell voltage." (col. 7, lines 32-36). It also teaches that "starting the flow of coolant can initiate a cell voltage reversal in the cooler outermost cells. Thus, care should be taken with the timing and rate at which coolant flow is commenced to avoid voltage reversal and/or over-heating." (col. 8, lines 34-43). Therefore, Robert's discloses restricting coolant flow when there is a decrease in voltage (voltage reversal).

### ***Conclusion***

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Angela J. Martin whose telephone number is 571-272-1288. The examiner can normally be reached on Monday-Friday from 9:00 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AJM



PATRICK JOSEPH RYAN  
SUPERVISORY PATENT EXAMINER